

## 1.0 INTRODUCTION

### 1.1 BACKGROUND

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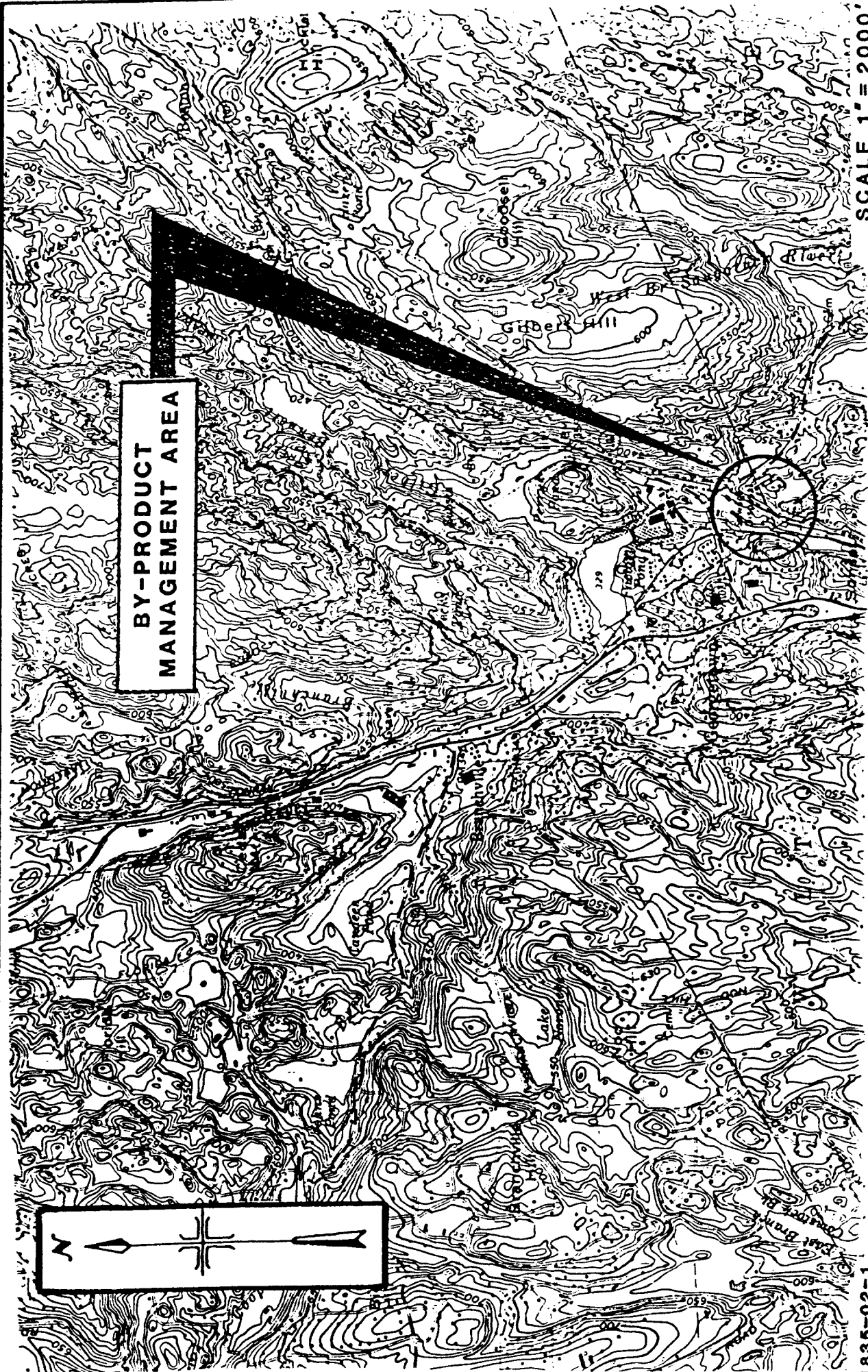
The Gilbert and Bennett Manufacturing Co. (Gilbert and Bennett) has owned a metal wire manufacturing facility in Georgetown, Connecticut, since the early 1800's. Active manufacturing operations took place at this facility through July 1989. Carbon steel wire cleaning, extruding, coating, and packaging operations were performed, including lead annealing and application of galvanized zinc finishes to strand wire and wire fabric. A general location map of the facility site is shown on Figure 1-1.

Wastewaters, primarily wash water and rinse water, were collected from several manufacturing operations. Acids used in the manufacturing process (sulfuric and hydrochloric) were combined with wastewaters and neutralized in a tank located in the manufacturing process area. Lime was used to neutralize the wastewaters and to precipitate metals (e.g., iron, zinc, and lead). The neutralized wastewater was then pumped to concrete clarifier tanks located to the south of the facility where precipitated solids were allowed to settle out. The supernatant from the clarifier was then discharged to the Norwalk River under a National Pollutant Discharge Elimination System (NPDES) permit (Appendix A). Until mid-1987, settled solids (i.e., by-product) were pumped from the clarifier to one of two holding areas in an adjacent by-product storage area, which was described in the facility's Part A Interim Status Permit (Appendix B). From mid-1987 to plant shut-down in July 1989, by-product solids were pumped from the clarifier tanks to tank trucks for off-site treatment and disposal.

During the period from the mid-1960's through mid-1987, by-product was stored in two impoundments (BU and BL), one drying area (C), and several mounds (including A, D, and E). These areas are located in a triangular parcel of land isolated from adjacent properties by the Norwalk River, a railroad right-of-way, and Route 107, as shown on Figure 1-2. Areas A, BU, BL, C and D are located within a fenced area.

Some storage of by-product possibly occurred as early as 1930 based on a review of historic aerial photographs and Gilbert and Bennett site drawings, which show that the clarifiers were present on-site as early as 1930. Two impoundments have been identified to exist on-site prior to 1949: impoundment BL and a semicircular impoundment located to the east of the clarifier. Between 1962 and 1965, the semicircular impoundment was eliminated and impoundment BU was constructed.

Discussions with former Gilbert and Bennett employees suggest that approximately once a year, clarifier solids were diverted to Area BU from Area BL and by-product was removed by dragline to Area



SCALE 1" = 2000'

MALCOLM PIRNIE, INC.

FIGURE 1-1

GILBERT & BENNETT MANUFACTURING COMPANY  
BY-PRODUCT MANAGEMENT AREA CLOSURE PLAN  
GENERAL LOCATION MAP

MALCOLM  
PIRNIE

1835-02-1

C (the drying pit). By-product was subsequently removed by a front-end loader or similar equipment from Area C to Area A, D, or E. It is reported that much of the by product from Area C was first placed in mounds at Area A and then transferred to Areas D and E.

## 1.2 REGULATORY HISTORY

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Characteristics of the by-product were initially described in a 1985 Philip W. Genovese Associates, Inc. report, which concluded that the by-product did not exhibit any characteristics of a RCRA hazardous waste. In a September 26, 1985 letter from the Connecticut Department of Environmental Protection (CTDEP) to Gilbert and Bennett, the CTDEP stated that their preliminary review of by-product sample results indicated that the by-product "should not be considered a listed or characteristically hazardous waste." Subsequently, the CTDEP collected and analyzed by-product samples and determined that the by-product was a characteristic hazardous waste based on E.P. Toxicity analyses results that exceeded the 5.0 mg/l regulatory standard for leachable lead. In response to a request by the CTDEP to conduct further studies of the stored by-product, Gilbert and Bennett retained the E.C. Jordan Company (E.C. Jordan) to perform a preliminary by-product study. In December 1987, following review of the preliminary by-product study, the CTDEP asserted that the by-product was a hazardous waste and requested Gilbert and Bennett to close the storage facility in accordance with 40 CFR 265. The CTDEP also requested that Gilbert and Bennett prepare a Groundwater Quality Scope of Study Report (work plan) and a Closure and Post-Closure Plan. At the request of Gilbert and Bennett, E.C. Jordan submitted the Groundwater Quality Scope of Study Report to the CTDEP on May 11, 1988. The proposed scope of study was revised on September 6, 1988. The CTDEP approved the work plan on September 30, 1988; on-site investigations began December 6, 1988, and the study results were documented in a Groundwater Quality Report submitted to Gilbert and Bennett and the CTDEP in April 1989.

The original E.C. Jordan Closure and Post-Closure Plan was submitted to the CTDEP in December 1988, and revised in May 1989 and June 1989 in response to requests by the CTDEP. Following an October 19, 1989 public hearing, on September 28, 1990 the CTDEP issued a written Notice of Deficiency (NOD) for the June 1989 Closure Plan. This NOD, included in Appendix C, indicated that additional investigations were necessary prior to approval. In the summer of 1991, Gilbert and Bennett retained Malcolm Pirnie, Inc. (Pirnie) to perform additional site investigations and prepare a revised Closure and Post-Closure Plan for the by-product management area in an effort to respond to

all comments and questions presented in the NOD. A revised Closure and Post-Closure Plan was submitted to the CTDEP on May 1, 1992.

In response to an NOD dated October 23, 1992 for the Hydrogeologic Investigation Report, Pirnie performed additional hydrogeologic investigations and submitted a revised Hydrogeologic Investigation Report on June 29, 1993. On October 28, 1992, Gilbert and Bennett received a request from the CTDEP to perform the final stage of characterization and waste removal, if necessary, at the south end of the site. In response to this request, Gilbert and Bennett conducted a Test Excavation Program in December 1992, as described in the Test Excavation Program Findings Report submitted to the CTDEP in April 1993.

Following their initial review of the April 1992 Closure and Post-Closure Plan, the CTDEP issued a Request for Information to Gilbert and Bennett on November 30, 1992. As a result of subsequent correspondences and meetings between the CTDEP, Gilbert and Bennett and Pirnie, on October 14, 1993, the CTDEP issued a letter dated September 11, 1993, detailing the CTDEP's final review comments. Copies of the November 30, 1992 Request for Information and the September 11, 1993 letter are included in Appendix C.

On January 21, 1994, Malcolm Pirnie submitted a revised Closure Plan to the CTDEP, on behalf of Gilbert and Bennett. In a letter dated April 4, 1994, the CTDEP required Gilbert and Bennett to submit a Closure Plan Addendum which would describe the inclusion of the Town of Redding POTW into the north end of the Gilbert and Bennett landfill parcel. Additional site characterization activities were previously conducted (in anticipation of the CTDEP's April 4, 1994 letter) on March 23, 1994. On May 26, 1994 a Notice of Public Hearing for the Closure Plan was published in the Redding Pilot. The public hearing was held on July 11, 1994 at the Redding Town Hall. Based on comments raised at the public hearing and upon finalizing its review of the Closure Plan, the CTDEP issued a Request for Information dated November 15, 1994, to Gilbert & Bennett. A copy of this Request for Information is included in Appendix C.

### **1.3 CLOSURE AND POST-CLOSURE INTENT**

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This Closure Plan for the Gilbert and Bennett by-product management area has been developed to address the statutory and regulatory intent of RCRA, specifically 40 CFR 265, and Connecticut Hazardous Waste Management Regulations presented in Section 22a - 449(c) -105 of the Regulations of Connecticut State Agencies and incorporates modifications in response to the November 15, 1994 CTDEP Request for Information. Closure of the By-Product Management Area will represent a

complete closure of the entire Gilbert and Bennett site, as there are several RCRA container storage areas located at the factory site that are undergoing final closure activities at the time of this Closure Plan submittal. The by-product will be stabilized to render all by-product "non-hazardous" by RCRA standards, provide structural integrity necessary to support a RCRA cap and further reduce leachable metals to levels consistent with CTDEP guidance. The Closure Plan will incorporate a cover/capping plan to minimize infiltration of incident rainfall on the closure area, and eliminate any potential surface water run-on. These measures will virtually eliminate the release and migration of contaminants in accordance with the intent of closure performance standards under 40 CFR 265.111 and:

- Minimize the need for future maintenance.
- Control, minimize or eliminate to the extent necessary, to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff or hazardous waste decomposition products to the ground or surface waters or to the atmosphere.

The post-closure intent is to monitor and maintain the closed regulated unit, assuring the long-term integrity of the capping system. Groundwater monitoring will also be implemented for a period consistent with regulatory requirements.